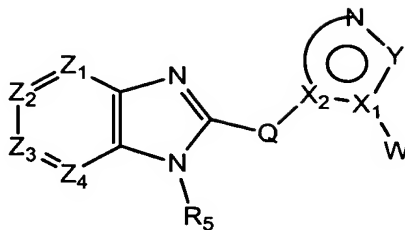


What is claimed is:

1. A compound of the formula:



5 or a pharmaceutically acceptable salt thereof, wherein:

$Z_1$  is nitrogen or  $CR_1$ ;

$Z_2$  is nitrogen or  $CR_2$ ;

$Z_3$  is nitrogen or  $CR_3$ ;

$Z_4$  is nitrogen or  $CR_4$ ;

provided that no more than two of  $Z_1$ ,  $Z_2$ ,  $Z_3$ , and  $Z_4$  are nitrogen;

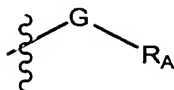
$R_1$ ,  $R_2$ ,  $R_3$ , and  $R_4$  are independently selected from

i) hydrogen, halogen, hydroxy, nitro, cyano, amino, haloalkyl, and haloalkoxy,

ii) alkyl, alkoxy, cycloalkyl, alkenyl, alkynyl, (cycloalkyl)alkyl,  $-NH(R_{10})$ ,  $-N(R_{10})(R_{11})$ , hydroxyalkyl, aminoalkyl,  $(R_{10})NHalkyl-$ ,  $(R_{10})(R_{11})Nalkyl-$ , alkanoyl, alkoxy carbonyl, (heterocycloalkyl)alkyl, alkylsulfonyl, alkylthio, mono- or dialkylaminocarbonyl, heterocycloalkyl, aryl, and heteroaryl, each of which is optionally substituted with 1, 2, 3, or 4 of  $R_{20}$ ,

wherein  $R_{10}$  and  $R_{11}$  are independently selected at each occurrence from the group consisting of alkyl, alkenyl, alkynyl, alkoxy, cycloalkyl, (cycloalkyl)alkyl, aryl, arylalkyl, alkanoyl, and mono and dialkylaminoalkyl; and

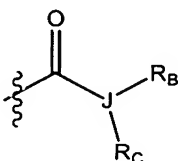
iii) a group of the formula:



where  $G$  is a bond, alkyl,  $-O-$ ,  $-C(=O)-$ , or  $-CH_2C(=O)-$ , and

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R<sub>A</sub> is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>,

iv) a group of the formula



where J is N, CH, or C-alkyl, and

10 R<sub>B</sub> and R<sub>C</sub> are independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkoxy, cycloalkyl, (cycloalkyl)alkyl, heterocycloalkyl, aryl, arylalkyl, alkanoyl, heteroaryl, and mono and dialkylaminoalkyl, each of which is optionally substituted by 1 or 2  
15 substituents independently chosen from halogen, hydroxy, cyano, amino, nitro, alkoxy, and alkyl;

R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain:

a) one or more double bonds,

20 b) one or more of oxo, O, S, SO, SO<sub>2</sub>, or N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen, Ar<sub>1</sub>, alkyl, cycloalkyl, heterocycloalkyl, or Ar<sub>1</sub>alkyl; wherein Ar<sub>1</sub> is aryl or heteroaryl, each of which is optionally substituted by 1 or 2 substituents independently chosen from halogen, hydroxy, cyano, amino, nitro, alkoxy, and alkyl, and/or  
25 c) one or more substituents R<sub>20</sub>;

v) -OC(=O)R<sub>E</sub>, -C(=O)OR<sub>E</sub>, -C(=O)NH<sub>2</sub>, -C(=O)NHR<sub>E</sub>, -C(=O)NR<sub>E</sub>R<sub>F</sub>, -S(O)<sub>n</sub>R<sub>E</sub>, -S(O)<sub>n</sub>NH<sub>2</sub>, -S(O)<sub>n</sub>NHR<sub>E</sub>, -S(O)<sub>n</sub>NR<sub>E</sub>R<sub>F</sub>, -NHC(=O)R<sub>E</sub>, -C(=NR<sub>E</sub>)R<sub>F</sub>, -HC=N-OH, -HC=N(alkoxy), -HC=N(alkyl), -NR<sub>E</sub>C(=O)R<sub>F</sub>, -NHS(O)<sub>m</sub>R<sub>E</sub>, and -NR<sub>E</sub>S(O)<sub>m</sub>R<sub>F</sub>, where m is 0, 1 or 2, and  
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*A1*  
*cont*

$R_E$  and  $R_F$  are independently selected at each occurrence from alkyl, cycloalkyl, heterocycloalkyl, alkoxy, mono- or dialkylamino, aryl, or heteroaryl each of which is optionally substituted by 1, 2, or 3 of  $R_{30}$ ;

$R_{20}$  is independently selected at each occurrence from the group consisting of: halogen; hydroxy; nitro; cyano; amino; alkyl; alkoxy optionally substituted with amino or mono- or dialkylamino; cycloalkyl; cycloalkylalkyl; cycloalkylalkoxy; alkenyl; alkynyl; haloalkyl; oxo; haloalkoxy; mono- and dialkylamino; aminoalkyl; and mono- and dialkylaminoalkyl;

$R_{30}$  is independently selected at each occurrence from halogen, hydroxy, nitro, cyano, amino, alkyl, alkoxy optionally substituted with amino or mono- or dialkylamino, cycloalkyl, cycloalkylalkyl, cycloalkylalkoxy, heterocycloalkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, oxo, mono- and dialkylamino, aminoalkyl, and mono- and dialkylaminoalkyl;

$R_5$  represents hydrogen or haloalkyl; or

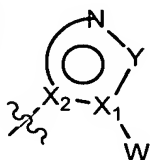
$R_5$  represents alkyl, cycloalkyl, or (cycloalkyl)alkyl, each of which may contain one or more double or triple bonds, and each of which is optionally substituted with 1, 2, or 3 of  $R_{30}$ , or

$R_5$  represents aryl, arylalkyl, heteroaryl, or heteroarylalkyl each of which is optionally substituted with 1, 2, or 3 substituents selected from the group consisting of haloalkyl, amino,  $-NH(R_{10})$ ,  $-N(R_{10})(R_{11})$ , carboxamido,  $(R_{10})NHcarbonyl$ ,  $(R_{10})(R_{11})Ncarbonyl$ , halogen, hydroxy, nitro, cyano, amino, alkyl, alkoxy optionally substituted with amino or mono- or dialkylamino, cycloalkyl, cycloalkylalkyl, cycloalkylalkoxy, heterocycloalkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aminoalkyl, and mono- and dialkylaminoalkyl;

Q represents  $-C(R_6)(R_7)$  or oxygen,

with the proviso that Q is not oxygen when  $X_2$  is nitrogen;

$R_6$  and  $R_7$  independently represent hydrogen, fluorine, or alkyl;  
the group:



5 represents a 5 to 7 membered heteroaryl or heterocycloalkyl ring containing up to 4 heteroatoms independently selected from nitrogen, sulfur, and oxygen, said 5 to 7 membered heteroaryl or heterocycloalkyl ring is substituted at each carbon atom by R, and substituted at each nitrogen atom available for substitution by R', wherein

10 R is independently chosen at each occurrence from hydrogen, halogen, amino, alkyl, alkenyl, alkynyl, alkoxy, cycloalkyl, (cycloalkyl)alkyl, haloalkyl, haloalkoxy, carboxamido, and 3- to 7-membered carbocyclic or  
15 heterocyclic groups which are saturated, unsaturated, or aromatic, which may be further substituted with one or more substituents independently selected from halogen, oxo, hydroxy, alkyl, and alkoxy;

20 R' is independently chosen at each occurrence from alkyl, hydrogen, cycloalkyl, cycloalkyl(alkyl), and 3- to 7-membered carbocyclic or heterocyclic groups which are saturated, unsaturated, or aromatic, which 3- to 7-membered carbocyclic or heterocyclic groups are  
25 optionally substituted with one or more substituents independently selected from halogen, oxo, hydroxy, alkyl, and alkoxy;

$X_1$  and  $X_2$  independently represent nitrogen, carbon or CH;

Y is nitrogen, oxygen, carbon,  $-CH-$ ,  $-CH_2-$ , or absent; and

30 W represents aryl or heteroaryl, wherein the aryl or heteroaryl group is optionally substituted with up to 4 groups

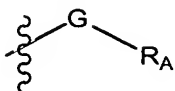
independently selected from  $R_{30}$ ,  $-\text{CO}_2\text{H}$ ,  $-\text{C}(=\text{O})\text{OR}_E$ ,  $-\text{C}(=\text{O})\text{NHR}_E$ ,  $-\text{C}(=\text{O})\text{NR}_E\text{R}_F$ ,  $-\text{C}(\text{O})\text{R}_E$ , and  $-\text{S}(\text{O})_m\text{R}_E$ ,  $-\text{OR}_E$ , where  $R_{30}$  and  $R_E$  are as defined above and  $m$  is 0, 1, or 2.

2. A compound or salt according to Claim 1, wherein  $R_1$ ,  $R_2$ ,  $R_3$ , and  $R_4$  are independently selected from

i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo( $\text{C}_1\text{-C}_6$ )alkyl, and halo( $\text{C}_1\text{-C}_6$ )alkoxy,

ii) ( $\text{C}_1\text{-C}_6$ )alkyl, ( $\text{C}_1\text{-C}_6$ )alkoxy, ( $\text{C}_3\text{-C}_8$ )cycloalkyl, ( $\text{C}_2\text{-C}_6$ )alkenyl, alkynyl, (( $\text{C}_3\text{-C}_8$ )cycloalkyl)( $\text{C}_1\text{-C}_4$ )alkyl,  $-\text{NH}(\text{R}_{10})$ ,  $-\text{N}(\text{R}_{10})(\text{R}_{11})$ , hydroxy( $\text{C}_1\text{-C}_6$ )alkyl, amino( $\text{C}_1\text{-C}_6$ )alkyl,  $(\text{R}_{10})\text{NH}(\text{C}_1\text{-C}_6)\text{alkyl}$ ,  $(\text{R}_{10})(\text{R}_{11})\text{N}(\text{C}_1\text{-C}_6)\text{alkyl}$ , ( $\text{C}_1\text{-C}_6$ )alkanoyl, ( $\text{C}_1\text{-C}_6$ )alkoxycarbonyl, ( $\text{C}_1\text{-C}_6$ )alkylsulfonyl, ( $\text{C}_1\text{-C}_6$ )alkylthio, mono- or di( $\text{C}_1\text{-C}_6$ )alkylaminocarbonyl, heterocycloalkyl, (heterocycloalkyl) $\text{C}_1\text{-C}_4$ alkyl, aryl, and heteroaryl, each of which is optionally substituted with 1, 2, 3, or 4 of  $\text{R}_{20}$ , wherein  $\text{R}_{10}$  and  $\text{R}_{11}$  are independently selected from the group consisting of ( $\text{C}_1\text{-C}_6$ )alkyl, ( $\text{C}_2\text{-C}_6$ )alkenyl, ( $\text{C}_1\text{-C}_6$ )alkoxy, ( $\text{C}_3\text{-C}_8$ )cycloalkyl, ( $\text{C}_3\text{-C}_8$ )cycloalkylalkyl, aryl, aryl( $\text{C}_1\text{-C}_6$ )alkyl, ( $\text{C}_1\text{-C}_6$ )alkanoyl, and mono and di( $\text{C}_1\text{-C}_6$ )alkylaminoalkyl;

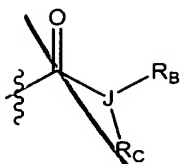
iii) a group of the formula:



where  $G$  is ( $\text{C}_1\text{-C}_6$ )alkyl,  $-\text{O}-$ ,  $-\text{C}(=\text{O})-$ , or  $-\text{CH}_2\text{C}(=\text{O})-$ , and

$\text{R}_A$  is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring consisting of from 3 to 8 ring atoms, and each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O; said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of  $\text{R}_{20}$ , and

iv) a group of the formula



where J is N, CH, or C-(C<sub>1</sub>-C<sub>6</sub>)alkyl and

R<sub>B</sub> and R<sub>C</sub> are independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl) (C<sub>1</sub>-C<sub>4</sub>)alkyl, heterocycloalkyl, aryl, aryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkanoyl, heteroaryl, and mono and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl, each of which is optionally substituted by 1 or 2 substituents independently chosen from halogen, hydroxy, cyano, amino, nitro, C<sub>1</sub>-C<sub>6</sub>alkoxy, and C<sub>1</sub>-C<sub>6</sub>alkyl; or

R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain

a) one or more double bonds;

b) one or more of oxo, O, S, SO, SO<sub>2</sub>, and N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen, Ar<sub>1</sub>, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, heterocycloalkyl, or Ar<sub>1</sub>(C<sub>1</sub>-C<sub>6</sub>)alkyl; wherein Ar<sub>1</sub> is aryl or heteroaryl, each of which is optionally substituted by 1 or 2 substituents independently chosen from halogen, hydroxy, cyano, amino, nitro, C<sub>1</sub>-C<sub>6</sub>alkoxy, and C<sub>1</sub>-C<sub>6</sub>alkyl; and/or

c) one or more substituents R<sub>20</sub>;

v) -OC(=O)R<sub>E</sub>, -C(=O)OR<sub>E</sub>, -C(=O)NH<sub>2</sub>, -C(=O)NHR<sub>E</sub>, -C(=O)NR<sub>E</sub>R<sub>F</sub>, -S(O)<sub>n</sub>R<sub>E</sub>, -S(O)<sub>n</sub>NH<sub>2</sub>, -S(O)<sub>n</sub>NHR<sub>E</sub>, -S(O)<sub>n</sub>NR<sub>E</sub>R<sub>F</sub>, -NHC(=O)R<sub>E</sub>, -C(=NR<sub>E</sub>)R<sub>F</sub>, -HC=N-OH, -HC=N(C<sub>1</sub>-C<sub>6</sub>alkoxy), -HC=N(C<sub>1</sub>-C<sub>6</sub>alkyl), -NR<sub>E</sub>C(=O)R<sub>F</sub>, -NHS(O)<sub>m</sub>R<sub>E</sub>, and -NR<sub>E</sub>S(O)<sub>m</sub>R<sub>F</sub>, where m is 0, 1 or 2, and

R<sub>E</sub> and R<sub>F</sub> are independently selected at each occurrence from (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, heterocycloalkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, aryl, and



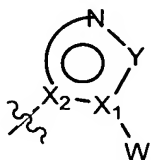
substituted with amino or mono- or  
di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl,  
(C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>4</sub>)alkyl,  
(C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>4</sub>)alkoxy, heterocyclo(C<sub>1</sub>-C<sub>4</sub>)alkyl,  
(C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl,  
halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and  
mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

Q represents -C(R<sub>6</sub>)(R<sub>7</sub>) or oxygen,

with the proviso that Q is not oxygen when X<sub>2</sub> is nitrogen;

R<sub>6</sub> and R<sub>7</sub> independently represent hydrogen, fluorine, or  
C<sub>1</sub>-C<sub>6</sub>alkyl;

the group:



represents a 5 to 7 membered heteroaryl or heterocycloalkyl ring  
containing up to 4 heteroatoms selected from nitrogen,  
sulfur, and oxygen, said 5 to 7 membered heteroaryl or  
heterocycloalkyl ring is substituted at each carbon atom by  
R, and is substituted at each nitrogen atom available for  
substitution by R', wherein

R is independently chosen at each occurrence from hydrogen,  
halogen, amino, C<sub>1</sub>-C<sub>6</sub>alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-  
C<sub>6</sub>)alkynyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-  
C<sub>8</sub>cycloalkyl)(C<sub>1</sub>-C<sub>4</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, haloalkoxy,  
carboxamido, and 3- to 7-membered carbocyclic or  
heterocyclic groups which are saturated, unsaturated,  
or aromatic, which may be further substituted with one  
or more substituents independently selected from  
halogen, oxo, hydroxy, C<sub>1-4</sub>alkyl, and -O(C<sub>1-4</sub>alkyl);

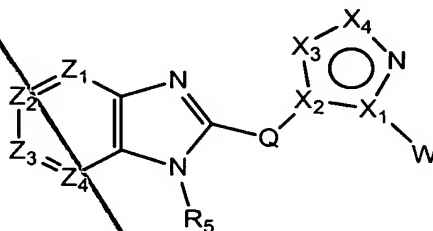
R' is independently chosen at each occurrence from hydrogen,  
C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl(C<sub>1</sub>-C<sub>4</sub>alkyl),  
and 3- to 7-membered carbocyclic or heterocyclic groups



which are saturated, unsaturated, or aromatic, which 3-  
to 7-membered carbocyclic or heterocyclic groups are  
optionally substituted with one or more substituents  
independently selected from halogen, oxo, hydroxy,  
C<sub>1-4</sub>alkyl, and -O(C<sub>1-4</sub>alkyl); and

X<sub>1</sub>, X<sub>2</sub>, W, and Y are as defined in Claim 1.

3. A compound or salt according to Claim 2 of the formula:



wherein Z<sub>1</sub>, Z<sub>2</sub>, Z<sub>3</sub>, Z<sub>4</sub>, R<sub>5</sub>, Q, X<sub>1</sub>, X<sub>2</sub>, and W are as defined in  
Claim 2;

X<sub>3</sub> and X<sub>4</sub> are independently selected from the group consisting of  
carbon, CR, N, O, S, NH, and N(C<sub>1</sub>-C<sub>6</sub>)alkyl;

provided that at least one of X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, and X<sub>4</sub> is carbon or  
CR, wherein

R is independently chosen at each occurrence from hydrogen,  
halogen, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy,  
(C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-  
C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl,  
halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, carboxamido, and 3- to 7-membered  
carbocyclic or heterocyclic groups which are saturated,  
unsaturated, or aromatic, which may be further  
substituted with one or more substituents independently  
selected from halogen, oxo, hydroxy, C<sub>1-4</sub>alkyl, and -  
O(C<sub>1-4</sub>alkyl).

4. A compound or salt according to Claim 1 wherein  
Z<sub>1</sub> is CR<sub>1</sub>; Z<sub>2</sub> is CR<sub>2</sub>; Z<sub>3</sub> is CR<sub>3</sub>; and Z<sub>4</sub> is CR<sub>4</sub>.

5. A compound or salt according to Claim 2 wherein  $Z_1$  is  $CR_1$ ;  $Z_2$  is  $CR_2$ ;  $Z_3$  is  $CR_3$ ; and  $Z_4$  is  $CR_4$ .

6. A compound or salt according to Claim 3 wherein  $Z_1$  is  $CR_1$ ;  $Z_2$  is  $CR_2$ ;  $Z_3$  is  $CR_3$ ; and  $Z_4$  is  $CR_4$ .

7. A compound or salt according to Claim 6, wherein  $X_2$  is carbon; and Q is oxygen.

8. A compound or salt according to Claim 6, wherein  $X_2$  is N; and Q is  $C(R_6)(R_7)$ .

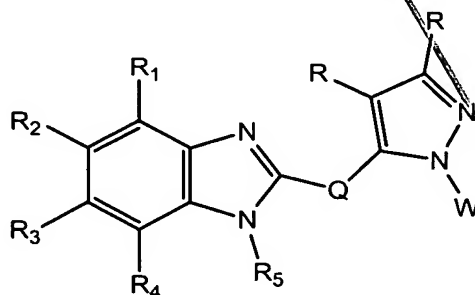
9. A compound or salt according to Claim 6, wherein  $X_2$  is carbon; and Q is  $C(R_6)(R_7)$ .

10. A compound or salt according to Claim 6, wherein  $X_1$  is carbon;  $X_2$  is N; and Q is  $C(R_6)(R_7)$ .

11. A compound or salt according to Claim 6, wherein  $X_1$  is nitrogen;  $X_2$  is carbon; and Q is  $C(R_6)(R_7)$ .

12. A compound or salt according to Claim 6, wherein Q is  $C(R_6)(R_7)$ .

13. A compound or salt according to Claim 6 of the formula



wherein  $R$ ,  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $Q$ , and  $W$  are as defined in Claim 6.

14. A compound or salt according to Claim 13 wherein Q is C(R<sub>6</sub>)(R<sub>7</sub>).

15. A compound or salt according to Claim 14, wherein:

R is independently selected at each occurrence from the group consisting of

i) hydrogen, halogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, and

ii) phenyl and pyridyl each of which is optionally substituted with up to 3 substituents independently chosen from halogen, hydroxy, C<sub>1</sub>-C<sub>4</sub>alkyl, and -O(C<sub>1</sub>-C<sub>4</sub>alkyl);

R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, heterocycloalkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, phenyl, benzyl, thiophenyl, thiazoyl, pyridyl, imidazolyl, pyrazolyl, or pyrimidinyl;

R<sub>6</sub> and R<sub>7</sub> independently represent hydrogen, fluorine, or C<sub>1</sub>-C<sub>6</sub> alkyl; and

W represents phenyl, thienyl, thiazoyl, pyridyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, isoxazolyl, or pyrimidinyl, each of which is optionally substituted with up to 4 independently selected R<sub>30</sub> groups.

16. A compound or salt according to Claim 14, wherein:

R is independently selected at each occurrence from the group consisting of hydrogen, halogen, and (C<sub>1</sub>-C<sub>2</sub>)alkyl;

Q1  
cont  
5 R<sub>1</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents (C<sub>1</sub>-C<sub>6</sub>)alkyl;

Q is CH<sub>2</sub>; and

10 W represents phenyl, furanyl, thienyl, thiazoyl, pyridyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, isoxazolyl, pyrimidinyl, benzimidazolyl, quinolinyl, isoquinolinyl each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

15 17. A compound or salt according to Claim 16 wherein R<sub>1</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, trifluoromethyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and cyano; and W is phenyl, pyridyl, or thiazolyl, each which is optionally substituted by one or more substituents independently chosen from halogen, cyano, hydroxy, oxo, C<sub>1</sub>-C<sub>2</sub>haloalkyl, C<sub>1</sub>-C<sub>2</sub>alkyl, and C<sub>1</sub>-C<sub>2</sub> alkoxy.

20 18. A compound or salt according to Claim 17, wherein W is 2-thiazolyl, 2-pyrimidinyl, 3-fluorophenyl, or 6-fluoro-2-pyridinyl.

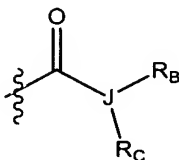
25 19. A compound or salt according to Claim 17, wherein R, R<sub>1</sub>, and R<sub>4</sub> are hydrogen.

30 20. A compound or salt according to Claim 17, wherein R<sub>5</sub> is ethyl or n-propyl.

21. A compound or salt according to Claim 17 wherein  $R_2$  is chosen from

- i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo( $C_1$ - $C_6$ )alkyl, and halo( $C_1$ - $C_6$ )alkoxy,
- ii)  $C_1$ - $C_6$ alkyl,  $C_1$ - $C_6$ alkoxy,  $C_3$ - $C_8$ cycloalkyl,  $C_2$ - $C_6$ alkenyl,  $C_2$ - $C_6$ alkynyl, ( $C_3$ - $C_8$ cycloalkyl) $C_1$ - $C_4$ alkyl,  $-NH(R_{10})$ ,  $-N(R_{10})(R_{11})$ ,  $(R_{10})NH(C_1-C_6)alkyl$ ,  $(R_{10})(R_{11})N(C_1-C_6)alkyl$ , (heterocycloalkyl)alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of  $R_{20}$ .

22. A compound or salt according to Claim 17 wherein  $R_2$  is a group of the formula

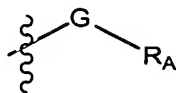


where J is N, CH, or C- $(C_1-C_6)alkyl$  and

$R_B$  and  $R_C$  are independently selected from the group consisting of hydrogen,  $(C_1-C_6)alkyl$ ,  $(C_2-C_6)alkenyl$ ,  $(C_2-C_6)alkynyl$ ,  $C_3$ - $C_8$ cycloalkyl, and  $(C_3-C_8cycloalkyl)(C_1-C_4)alkyl$ ; or  $R_B$  and  $R_C$  and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain

- a) one or more double bonds,
- b) one or more of oxo, O, S, SO,  $SO_2$ , and  $N-R_D$  wherein  $R_D$  is hydrogen or  $(C_1-C_6)alkyl$ ;
- c) one or more substituents  $R_{20}$ .

23. A compound or salt according to Claim 17 wherein  $R_2$  is a group of the formula:



where G is a bond or  $C_1$ - $C_2$ alkyl; and

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R<sub>A</sub> is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

24. A compound or salt according to Claim 23 wherein R<sub>A</sub> is chosen from phenyl, pyrrolyl, pyrazolyl, thiazolyl, isoxazolyl, triazolyl, tetrazolyl, oxadiazolyl, and oxazolyl each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

25. A compound or salt according to Claim 14, wherein:  
R is independently selected at each occurrence from the group consisting of hydrogen, halogen, and (C<sub>1</sub>-C<sub>2</sub>)alkyl;  
R<sub>1</sub>, R<sub>2</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents (C<sub>1</sub>-C<sub>6</sub>)alkyl;

Q is CH<sub>2</sub>; and

W represents phenyl, furanyl, thienyl, thiazoyl, pyridyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, isoxazolyl, pyrimidinyl, benzimidazolyl, quinolinyl, isoquinolinyl each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

26. A compound or salt according to Claim 25 wherein R<sub>1</sub>, R<sub>2</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, trifluoromethyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and cyano; and

W is phenyl, pyridyl, or thiazolyl, each of which is optionally substituted by one or more substituents independently chosen from halogen, cyano, hydroxy, oxo, C<sub>1</sub>-C<sub>2</sub>haloalkyl, C<sub>1</sub>-C<sub>2</sub>alkyl, and C<sub>1</sub>-C<sub>2</sub>alkoxy.

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27. A compound or salt according to Claim 26, wherein W is 2-thiazolyl, 2-pyrimidinyl, 3-fluorophenyl, or 6-fluoro-2-pyridinyl.

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28. A compound or salt according to Claim 26, wherein R, R<sub>1</sub>, and R<sub>4</sub> are hydrogen.

29. A compound or salt according to Claim 26, wherein R<sub>5</sub> is ethyl or n-propyl.

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30. A compound or salt according to Claim 26 wherein R<sub>3</sub> is chosen from

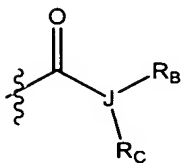
i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy,

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ii) C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), (R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl, (heterocycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

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31. A compound or salt according to Claim 26 wherein R<sub>3</sub> is a group of the formula



where J is N, CH, or C-(C<sub>1</sub>-C<sub>6</sub>)alkyl and

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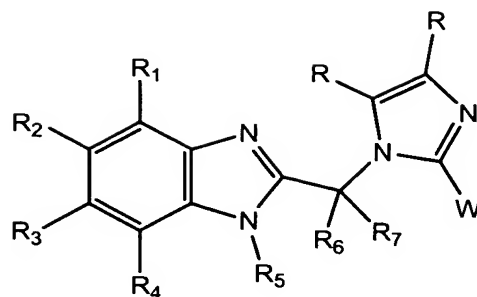
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wherein R, R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, and W are as defined in Claim 6.

36. A compound or salt according to Claim 35, wherein: R is independently selected at each occurrence from the group consisting of

- i) hydrogen, halogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, and
- ii) phenyl and pyridyl each of which is optionally substituted with up to 3 substituents independently chosen from halogen, hydroxy, C<sub>1-4</sub>alkyl, and -O(C<sub>1-4</sub>alkyl);

R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, heterocycloalkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, phenyl, benzyl, thiophenyl, thiazoyl, pyridyl, imidazolyl, pyrazolyl, or pyrimidinyl;

R<sub>6</sub> and R<sub>7</sub> independently represent hydrogen, fluorine, or C<sub>1</sub>-C<sub>6</sub> alkyl; and

W represents phenyl, thienyl, thiazoyl, pyridyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, isoxazolyl, or

pyrimidinyl, each of which is optionally substituted with up to 4  $R_{30}$  groups.

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37. A compound or salt according to Claim 35, wherein:  
W represents a 6-membered aryl or heteroaryl groups, wherein the 6-membered aryl or heteroaryl group is optionally substituted with up to 4 groups independently selected from  $R_{30}$ ,  $-CO_2H$ ,  $-C(=O)OR_E$ ,  $-C(=O)NHR_E$ ,  $-C(=O)NR_ER_F$ ,  $-C(O)R_E$ ,  $-S(O)_mR_E$ , and  $-OR_E$ ; and m is 0, 1, or 2.

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38. A compound or salt according to Claim 35, wherein:  
W represents a 5-membered heteroaryl group, wherein the 5-membered heteroaryl group is optionally substituted with up to 4 groups independently selected from  $R_{30}$ ,  $-CO_2H$ ,  $-C(=O)OR_E$ ,  $-C(=O)NHR_E$ ,  $-C(=O)NR_ER_F$ ,  $-C(O)R_E$ ,  $-S(O)_mR_E$ , and  $-OR_E$ , and m is 0, 1, or 2.

15

39. A compound or salt according to Claim 35, wherein:  
R is independently selected at each occurrence from the group consisting of hydrogen, halogen, and  $(C_1-C_2)$ alkyl;  
R<sub>1</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino,  $(C_1-C_6)$ alkyl,  $(C_1-C_6)$ alkoxy,  $(C_3-C_8)$ cycloalkyl,  $(C_3-C_8)$ cycloalkyl  $(C_1-C_6)$ alkyl, halo  $(C_1-C_6)$ alkyl, halo  $(C_1-C_6)$ alkoxy, mono or di  $(C_1-C_6)$ alkylamino, amino  $(C_1-C_6)$ alkyl, and mono- and di  $(C_1-C_6)$ alkylamino  $(C_1-C_6)$ alkyl;

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R<sub>5</sub> represents  $(C_1-C_6)$ alkyl;

R<sub>6</sub> and R<sub>7</sub> are hydrogen; and

25

W represents phenyl, furanyl, thienyl, thiazoyl, pyridyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, isoxazolyl, pyrimidinyl, benzimidazolyl, quinolinyl, isoquinolinyl each of which is optionally substituted with up to 4  $R_{30}$  groups.

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cont

40. A compound or salt according to Claim 39 wherein  $R_1$ ,  $R_3$ , and  $R_4$  are independently selected from hydrogen, halogen, trifluoromethyl,  $C_1$ - $C_2$  alkyl, and cyano; and W is phenyl, pyridyl, or thiazolyl, each which is optionally substituted by one or more substituents independently chosen from halogen, cyano, hydroxy, oxo,  $C_1$ - $C_2$ haloalkyl,  $C_1$ - $C_2$ alkyl, and  $C_1$ - $C_2$  alkoxy.

41. A compound or salt according to Claim 40, wherein W is 2-thiazolyl, 2-pyrimidinyl, 3-fluorophenyl, or 6-fluoro-2-pyridinyl.

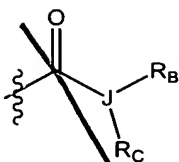
42. A compound or salt according to Claim 40, wherein R,  $R_1$ , and  $R_4$  are hydrogen.

43. A compound or salt according to Claim 40, wherein  $R_5$  is ethyl or n-propyl.

44. A compound or salt according to Claim 40 wherein  $R_2$  is chosen from

- i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo( $C_1$ - $C_6$ )alkyl, and halo( $C_1$ - $C_6$ )alkoxy,
- ii)  $C_1$ - $C_6$ alkyl,  $C_1$ - $C_6$ alkoxy,  $C_3$ - $C_8$ cycloalkyl,  $C_2$ - $C_6$ alkenyl,  $C_2$ - $C_6$ alkynyl, ( $C_3$ - $C_8$ cycloalkyl)  $C_1$ - $C_4$ alkyl,  $-NH(R_{10})$ ,  $-N(R_{10})(R_{11})$ ,  $(R_{10})NH(C_1-C_6)alkyl$ ,  $(R_{10})(R_{11})N(C_1-C_6)alkyl$ , (heterocycloalkyl) $C_1$ - $C_4$ alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of  $R_{20}$ .

45. A compound or salt according to Claim 40 wherein  $R_2$  is a group of the formula



where J is N, CH, or C-(C<sub>1</sub>-C<sub>6</sub>)alkyl and

R<sub>B</sub> and R<sub>C</sub> are independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, and (C<sub>3</sub>-C<sub>8</sub>cycloalkyl) (C<sub>1</sub>-C<sub>4</sub>)alkyl; or

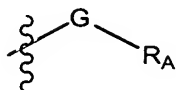
R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain

a) one or more double bonds,

b) one or more of oxo, O, S, SO, SO<sub>2</sub>, and N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen or (C<sub>1</sub>-C<sub>6</sub>)alkyl;

c) one or more substituents R<sub>20</sub>.

46. A compound or salt according to Claim 40 wherein R<sub>2</sub> is a group of the formula:



where G is a bond or C<sub>1</sub>-C<sub>2</sub>alkyl; and

R<sub>A</sub> is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

47. A compound or salt according to Claim 46 wherein R<sub>A</sub> is chosen from phenyl, pyrrolyl, pyrazolyl, thiazolyl, isoxazolyl, triazolyl, tetrazolyl, oxadiazolyl, and oxazolyl each of which is is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

48. A compound or salt according to Claim 40 wherein

R<sub>2</sub> is -HC=N-OH or -HC=N(C<sub>1</sub>-C<sub>6</sub>alkoxy).

49. A compound or salt according to Claim 35, wherein:  
R is independently selected at each occurrence from the group  
consisting of hydrogen, halogen, and (C<sub>1</sub>-C<sub>2</sub>)alkyl;

R<sub>1</sub>, R<sub>2</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen,  
hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy,  
(C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-  
C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino,  
amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-  
C<sub>6</sub>)alkyl;

R<sub>5</sub> represents (C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>6</sub> and R<sub>7</sub> are hydrogen; and

W represents phenyl, furanyl, thienyl, thiazoyl, pyridyl,  
imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl,  
isoxazolyl, pyrimidinyl, benzimidazolyl, quinolinyl,  
isoquinolinyl each of which is optionally substituted with  
up to 4 R<sub>30</sub> groups.

50. A compound or salt according to Claim 49 wherein  
R<sub>1</sub>, R<sub>2</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen,  
trifluoromethyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and cyano; and  
W is phenyl, pyridyl, or thiazolyl, each which is optionally  
substituted by one or more substituents independently chosen  
from halogen, cyano, hydroxy, oxo, C<sub>1</sub>-C<sub>2</sub>haloalkyl, C<sub>1</sub>-  
C<sub>2</sub>alkyl, and C<sub>1</sub>-C<sub>2</sub> alkoxy.

51. A compound or salt according to Claim 50, wherein W is  
2-thiazolyl, 2-pyrimidinyl, 3-fluorophenyl, or 6-fluoro-2-  
pyridinyl.

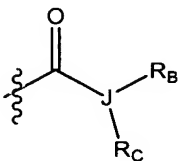
52. A compound or salt according to Claim 50, wherein R, R<sub>1</sub>,  
and R<sub>4</sub> are hydrogen.

53. A compound or salt according to Claim 50, wherein R<sub>5</sub> is ethyl or n-propyl.

54. A compound or salt according to Claim 50 wherein R<sub>3</sub> is chosen from

- i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy,
- ii) C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), (R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl, (heterocycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

55. A compound or salt according to Claim 50 wherein R<sub>3</sub> is a group of the formula



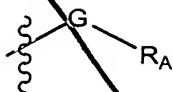
where J is N, CH, or C-(C<sub>1</sub>-C<sub>6</sub>)alkyl and

R<sub>B</sub> and R<sub>C</sub> are independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, and (C<sub>3</sub>-C<sub>8</sub>cycloalkyl)(C<sub>1</sub>-C<sub>4</sub>)alkyl; or

R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain

- a) one or more double bonds,
- b) one or more of oxo, O, S, SO, SO<sub>2</sub>, and N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen or (C<sub>1</sub>-C<sub>6</sub>)alkyl;
- c) one or more substituents R<sub>20</sub>.

56. A compound or salt according to Claim 50 wherein R<sub>3</sub> is a group of the formula:



where G is a bond or C<sub>1</sub>-C<sub>2</sub>alkyl; and

R<sub>A</sub> is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

57. A compound or salt according to Claim 56 wherein R<sub>A</sub> is chosen from phenyl, pyrrolyl, pyrazolyl, thiazolyl, isoxazolyl, triazolyl, tetrazolyl, oxadiazolyl, and oxazolyl each of which is is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

58. A compound or salt according to Claim 50 wherein R<sub>3</sub> is -HC=N-OH or -HC=N(C<sub>1</sub>-C<sub>6</sub>alkoxy).

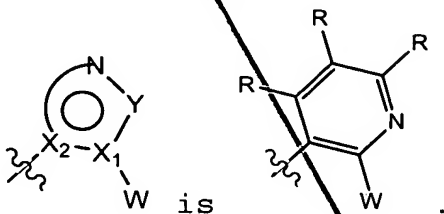
59. A compound or salt according to Claim 3 wherein:  
Z<sub>1</sub> is CR<sub>1</sub>; Z<sub>2</sub> is CR<sub>2</sub>; Z<sub>3</sub> is CR<sub>3</sub>; Z<sub>4</sub> is CR<sub>4</sub>;  
X<sub>1</sub> is carbon; X<sub>2</sub> is nitrogen; X<sub>3</sub> is CR; X<sub>4</sub> is nitrogen; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

60. A compound or salt according to Claim 3 wherein  
Z<sub>1</sub> is CR<sub>1</sub>; Z<sub>2</sub> is CR<sub>2</sub>; Z<sub>3</sub> is CR<sub>3</sub>; Z<sub>4</sub> is CR<sub>4</sub>;  
X<sub>1</sub> is carbon; X<sub>2</sub> is nitrogen; X<sub>3</sub> is nitrogen; X<sub>4</sub> is CR; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

61. A compound or salt according to Claim 3 wherein  
Z<sub>1</sub> is CR<sub>1</sub>; Z<sub>2</sub> is CR<sub>2</sub>; Z<sub>3</sub> is CR<sub>3</sub>; Z<sub>4</sub> is CR<sub>4</sub>;  
X<sub>1</sub> is carbon; X<sub>2</sub> is carbon; X<sub>3</sub> is S; and X<sub>4</sub> is CR.

62. A compound or salt according to Claim 61 wherein Q is  $C(R_6)(R_7)$ .

63. A compound or salt according to Claim 2, wherein  $Z_1$  is  $CR_1$ ;  $Z_2$  is  $CR_2$ ;  $Z_3$  is  $CR_3$ ;  $Z_4$  is  $CR_4$ ; and the group



64. A compound or salt according to Claim 63 wherein Q is  $C(R_6)(R_7)$ .

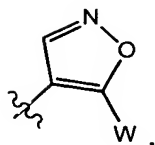
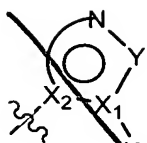
65. A compound or salt according to Claim 3 wherein  $Z_1$  is  $CR_1$ ;  $Z_2$  is  $CR_2$ ;  $Z_3$  is  $CR_3$ ;  $Z_4$  is  $CR_4$ ;  $X_1$  is nitrogen;  $X_2$  is carbon;  $X_3$  is nitrogen; and  $X_4$  is CR.

66. A compound or salt according to Claim 3 wherein  $Z_1$  is  $CR_1$ ;  $Z_2$  is  $CR_2$ ;  $Z_3$  is  $CR_3$ ;  $Z_4$  is  $CR_4$ ;  $X_1$  is carbon;  $X_2$  is carbon;  $X_3$  is NH or  $N(C_1-C_6\text{alkyl})$ ; and  $X_4$  is CR.

67. A compound or salt according to Claim 3 wherein  $Z_1$  is  $CR_1$ ;  $Z_2$  is  $CR_2$ ;  $Z_3$  is  $CR_3$ ;  $Z_4$  is  $CR_4$ ;  $X_1$  is carbon;  $X_2$  is nitrogen;  $X_3$  is nitrogen;  $X_4$  is nitrogen; and Q is  $C(R_6)(R_7)$ .

68. A compound or salt according to Claim 2, wherein  $Z_1$  is  $CR_1$ ;  $Z_2$  is  $CR_2$ ;  $Z_3$  is  $CR_3$ ;  $Z_4$  is  $CR_4$ ; and the group





is

a  
cont

69. A compound or salt according to Claim 3, wherein  
 $Z_1$  is  $CR_1$ ;  $Z_2$  is  $CR_2$ ;  $Z_3$  is  $CR_3$ ;  $Z_4$  is  $CR_4$ ;

5  $X_1$  is nitrogen;  $X_2$  is carbon;  $X_3$  is CR; and  $X_4$  is nitrogen.

70. A compound or salt according to Claim 69 wherein Q is  
 $C(R_6)(R_7)$ .

71. A compound or salt according to Claim 3, wherein  
 $Z_1$  is  $CR_1$ ;  $Z_2$  is  $CR_2$ ;  $Z_3$  is  $CR_3$ ;  $Z_4$  is  $CR_4$ ;  
 $X_1$  is nitrogen;  $X_2$  is carbon;  $X_3$  is nitrogen; and  $X_4$  is nitrogen.

72. A compound or salt according to Claim 71 wherein Q is  
 $C(R_6)(R_7)$ .

73. A compound or salt according to Claim 1 wherein one and  
only one of  $Z_1$ ,  $Z_2$ ,  $Z_3$ , and  $Z_4$  is nitrogen.

74. A compound or salt according to Claim 2 wherein one and  
only one of  $Z_1$ ,  $Z_2$ ,  $Z_3$ , and  $Z_4$  is nitrogen.

75. A compound or salt according to Claim 3 wherein  
one and only one of  $Z_1$ ,  $Z_2$ ,  $Z_3$ , and  $Z_4$  is nitrogen.

76. A compound or salt according to Claim 75 wherein  
either  $Z_2$  or  $Z_3$  is nitrogen; and  
W represents a 5-membered heteroaryl group, the 5-membered  
heteroaryl group is optionally substituted with up to 4  
groups independently selected from  $R_{30}$ ,  $-CO_2H$ ,  $-C(=O)OR_E$ , -

C(=O)NHR<sub>E</sub>, -C(=O)NR<sub>E</sub>R<sub>F</sub>, -C(O)R<sub>E</sub>, and -S(O)<sub>m</sub>R<sub>E</sub>, -OR<sub>E</sub>, where R<sub>30</sub> and R<sub>E</sub> are as defined above and m is 0, 1, or 2.

77. A compound or salt according to Claim 76, wherein X<sub>2</sub> is carbon; and Q is oxygen.

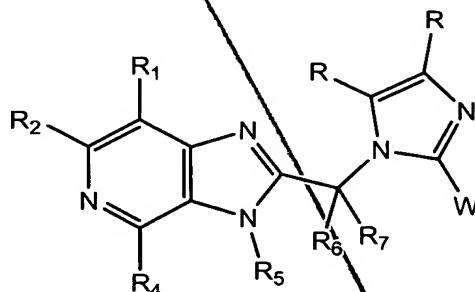
78. A compound or salt according to Claim 76, wherein X<sub>2</sub> is N; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

79. A compound or salt according to Claim 76, wherein X<sub>2</sub> is carbon; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

80. A compound or salt according to Claim 76, wherein X<sub>1</sub> is carbon; X<sub>2</sub> is N; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

81. A compound or salt according to Claim 76, wherein X<sub>1</sub> is nitrogen; X<sub>2</sub> is carbon; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

82. A compound or salt according to Claim 76 of the formula



wherein R, R<sub>1</sub>, R<sub>2</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, and W are as defined in Claim 76.

83. A compound or salt according to Claim 82, wherein:  
R is independently selected at each occurrence from the group consisting of

- Q' cont
- i) hydrogen, halogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, and
- ii) phenyl and pyridyl each of which is optionally substituted with up to 3 substituents independently chosen from halogen, hydroxy, C<sub>1-4</sub>alkyl, and -O(C<sub>1-4</sub>alkyl);
- R<sub>1</sub>, R<sub>2</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, heterocycloalkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;
- R<sub>5</sub> represents hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, phenyl, benzyl, thiophenyl, thiazoyl, pyridyl, imidazolyl, pyrazolyl, or pyrimidinyl;
- R<sub>6</sub> and R<sub>7</sub> independently represent hydrogen, fluorine, or C<sub>1</sub>-C<sub>6</sub>alkyl; and
- W represents thienyl, thiazolyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, or isoxazolyl each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

84. A compound or salt according to Claim 82, wherein:

R is independently selected at each occurrence from the group consisting of hydrogen, halogen, and (C<sub>1</sub>-C<sub>2</sub>)alkyl;

R<sub>1</sub> and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents (C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>6</sub> and R<sub>7</sub> are hydrogen; and

W represents furanyl, thienyl, thiazoyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, or isoxazolyl, each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

85. A compound or salt according to Claim 84 wherein R<sub>1</sub> and R<sub>4</sub> are independently selected from hydrogen, halogen, trifluoromethyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and cyano; and W is thiazolyl which is optionally substituted by one or more substituents independently chosen from halogen, cyano, hydroxy, oxo, C<sub>1</sub>-C<sub>2</sub>haloalkyl, C<sub>1</sub>-C<sub>2</sub>alkyl, and C<sub>1</sub>-C<sub>2</sub> alkoxy.

86. A compound or salt according to Claim 85, wherein W is 2-thiazolyl.

87. A compound or salt according to Claim 85, wherein R, R<sub>1</sub>, and R<sub>4</sub> are hydrogen.

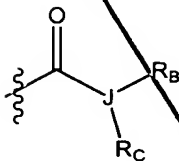
88. A compound or salt according to Claim 85, wherein R<sub>5</sub> is ethyl or n-propyl.

89. A compound or salt according to Claim 85 wherein R<sub>2</sub> is chosen from

- i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy,
- ii) C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>1</sub>-C<sub>6</sub>alkynyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), (R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl, (heterocycloalkyl) C<sub>1</sub>-C<sub>4</sub>alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

90. A compound or salt according to Claim 85 wherein R<sub>2</sub> is chosen from hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy.

91. A compound or salt according to Claim 85 wherein R<sub>2</sub> is a group of the formula

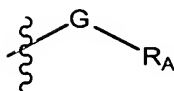


5 where J is N, CH, or C-(C<sub>1</sub>-C<sub>6</sub>)alkyl and R<sub>B</sub> and R<sub>C</sub> are independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, and (C<sub>3</sub>-C<sub>8</sub>cycloalkyl) (C<sub>1</sub>-C<sub>4</sub>)alkyl; or R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain

10 a) one or more double bonds,  
b) one or more of oxo, O, S, SO, SO<sub>2</sub>, and N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen or (C<sub>1</sub>-C<sub>6</sub>)alkyl; and/or  
c) one or more substituents R<sub>20</sub>.

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92. A compound or salt according to Claim 85 wherein R<sub>2</sub> is a group of the formula:



where G is a bond or C<sub>1</sub>-C<sub>2</sub>alkyl; and

20 R<sub>A</sub> is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially unsaturated, or aromatic carbocycle is optionally

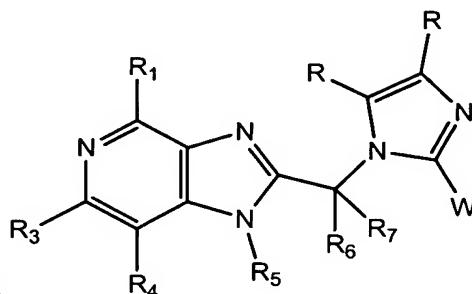
25 substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

93. A compound or salt according to Claim 92 wherein R<sub>A</sub> is chosen from phenyl, pyrrolyl, pyrazolyl, thiazolyl, isoxazolyl, triazolyl, tetrazolyl, oxadiazolyl, and oxazolyl each of which is

30 is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

94. A compound or salt according to Claim 85 wherein  $R_2$  is  $-HC=N-OH$  or  $-HC=N(C_1-C_6\text{alkoxy})$ .

95. A compound or salt according to Claim 76 of the formula



wherein  $R$ ,  $R_1$ ,  $R_2$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$ , and  $W$  are as defined in Claim 76.

96. A compound or salt according to Claim 75, wherein:  $R$  is independently selected at each occurrence from the group consisting of

- i) hydrogen, halogen,  $(C_1-C_6)$ alkyl,  $(C_3-C_8)$ cycloalkyl,  $(C_3-C_8)$ cycloalkyl  $(C_1-C_6)$ alkyl,  $(C_1-C_6)$ alkoxy, halo  $(C_1-C_6)$ alkyl, halo  $(C_1-C_6)$ alkoxy, and
- ii) phenyl and pyridyl each of which is optionally substituted with up to 3 substituents independently chosen from halogen, hydroxy,  $C_{1-4}$ alkyl, and  $-O(C_{1-4}$ alkyl);

$R_1$ ,  $R_3$ , and  $R_4$  are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino,  $(C_1-C_6)$ alkyl,  $(C_1-C_6)$ alkoxy,  $(C_3-C_8)$ cycloalkyl,  $(C_3-C_8)$ cycloalkyl  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, heterocycloalkyl, halo  $(C_1-C_6)$ alkyl, halo  $(C_1-C_6)$ alkoxy, mono or di  $(C_1-C_6)$ alkylamino, amino  $(C_1-C_6)$ alkyl, and mono- and di  $(C_1-C_6)$ alkylamino  $(C_1-C_6)$ alkyl;

$R_5$  represents hydrogen,  $(C_1-C_6)$ alkyl,  $(C_3-C_8)$ cycloalkyl,  $(C_3-C_8)$ cycloalkyl  $(C_1-C_6)$ alkyl, phenyl, benzyl, thiophenyl, thiazoyl, pyridyl, imidazolyl, pyrazolyl, or pyrimidinyl;

R<sub>6</sub> and R<sub>7</sub> independently represent hydrogen, fluorine, or C<sub>1</sub>-C<sub>6</sub> alkyl; and

W represents thienyl, thiazoyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, or isoxazolyl each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

97. A compound or salt according to Claim 95, wherein:

R is independently selected at each occurrence from the group consisting of hydrogen, halogen, and (C<sub>1</sub>-C<sub>2</sub>)alkyl;

R<sub>1</sub> and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents (C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>6</sub> and R<sub>7</sub> are hydrogen; and

W represents furanyl, thienyl, thiazoyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, or isoxazolyl, each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

98. A compound or salt according to Claim 97 wherein

R<sub>1</sub> and R<sub>4</sub> are independently selected from hydrogen, halogen, trifluoromethyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and cyano; and

W is thiazolyl which is optionally substituted by one or more substituents independently chosen from halogen, cyano, hydroxy, oxo, C<sub>1</sub>-C<sub>2</sub>haloalkyl, C<sub>1</sub>-C<sub>2</sub>alkyl, and C<sub>1</sub>-C<sub>2</sub> alkoxy.

99. A compound or salt according to Claim 98, wherein W is

2-thiazolyl.

100. A compound or salt according to Claim 98, wherein R,

R<sub>1</sub>, and R<sub>4</sub> are hydrogen.

101. A compound or salt according to Claim 98, wherein R<sub>5</sub> is ethyl or n-propyl.

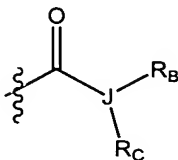
102. A compound or salt according to Claim 98 wherein R<sub>3</sub> is chosen from

i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, and

10 ii) C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl) C<sub>1</sub>-C<sub>4</sub>alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), (R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl, (heterocycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

103. A compound or salt according to Claim 102 wherein R<sub>3</sub> is chosen from hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy.

104. A compound or salt according to Claim 98 wherein R<sub>3</sub> is a group of the formula



where J is N, CH, or C-(C<sub>1</sub>-C<sub>6</sub>)alkyl and

R<sub>B</sub> and R<sub>C</sub> are independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, and (C<sub>3</sub>-C<sub>8</sub>cycloalkyl) (C<sub>1</sub>-C<sub>4</sub>)alkyl; or

R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain

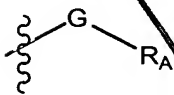
a) one or more double bonds,

b) one or more of oxo, O, S, SO, SO<sub>2</sub>, and N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen or (C<sub>1</sub>-C<sub>6</sub>)alkyl; and/or



c) one or more substituents  $R_{20}$ .

105. A compound or salt according to Claim 98 wherein  $R_3$  is a group of the formula:



where G is a bond or  $C_1$ - $C_2$ alkyl; and

$R_A$  is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of  $R_{20}$ .

106. A compound or salt according to Claim 105 wherein  $R_A$  is chosen from phenyl, pyrrolyl, pyrazolyl, thiazolyl, isoxazolyl, triazolyl, tetrazolyl, oxadiazolyl, and oxazolyl each of which is is optionally substituted with 1, 2, 3, or 4 of  $R_{20}$ .

107. A compound or salt according to Claim 98 wherein  $R_2$  is  $-HC=N-OH$  or  $-HC=N(C_1-C_6\text{alkoxy})$ .

108. A compound or salt according to Claim 76 wherein:  $X_1$  is carbon;  $X_2$  is nitrogen;  $X_3$  is CR; and  $X_4$  is nitrogen; and Q is  $C(R_6)(R_7)$ .

109. A compound or salt according to Claim 76 wherein  $X_1$  is carbon;  $X_2$  is nitrogen;  $X_3$  is nitrogen;  $X_4$  is CR; and Q is  $C(R_6)(R_7)$ .

110. A compound or salt according to Claim 76 wherein  $X_1$  is carbon;  $X_2$  is carbon;  $X_3$  is S; and  $X_4$  is CR.

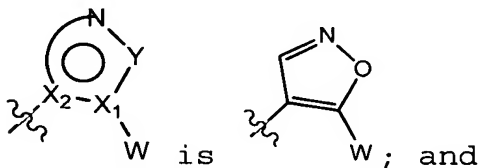
111. A compound or salt according to Claim 110 wherein Q is C(R<sub>6</sub>)(R<sub>7</sub>).

112. A compound or salt according to Claim 76 wherein X<sub>1</sub> is nitrogen; X<sub>2</sub> is carbon; X<sub>3</sub> is nitrogen; and X<sub>4</sub> is CR.

113. A compound or salt according to Claim 76 wherein X<sub>1</sub> is carbon; X<sub>2</sub> is carbon; X<sub>3</sub> is NH or N(C<sub>1</sub>-C<sub>6</sub>alkyl); and X<sub>4</sub> is CR.

114. A compound or salt according to Claim 76 wherein X<sub>1</sub> is carbon; X<sub>2</sub> is nitrogen; X<sub>3</sub> is nitrogen; X<sub>4</sub> is nitrogen; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

115. A compound or salt according to Claim 74, wherein either Z<sub>2</sub> or Z<sub>3</sub> is nitrogen; and the group



W represents a 5-membered heteroaryl group, the 5-membered heteroaryl group is optionally substituted with up to 4 groups independently selected from R<sub>30</sub>, -CO<sub>2</sub>H, -C(=O)OR<sub>E</sub>, -C(=O)NHR<sub>E</sub>, -C(=O)NR<sub>E</sub>R<sub>F</sub>, -C(O)R<sub>E</sub>, and -S(O)<sub>m</sub>R<sub>E</sub>, -OR<sub>E</sub>, where R<sub>30</sub> and R<sub>E</sub> are as defined above and m is 0, 1, or 2.

116. A compound or salt according to Claim 76, wherein X<sub>1</sub> is nitrogen; X<sub>2</sub> is carbon; X<sub>3</sub> is CR; and X<sub>4</sub> is nitrogen.

117. A compound or salt according to Claim 116 wherein Q is C(R<sub>6</sub>)(R<sub>7</sub>).

118. A compound or salt according to Claim 76, wherein

X<sub>1</sub> is carbon; X<sub>2</sub> is carbon; X<sub>3</sub> is NH or NCH<sub>3</sub>; and X<sub>4</sub> is CR.

119. A compound or salt according to Claim 76, wherein  
X<sub>1</sub> is nitrogen; X<sub>2</sub> is carbon; X<sub>3</sub> is nitrogen; and X<sub>4</sub> is nitrogen.

120. A compound or salt according to Claim 119 wherein Q is  
C(R<sub>6</sub>)(R<sub>7</sub>).

121. A compound or salt according to Claim 75 wherein  
either Z<sub>2</sub> or Z<sub>3</sub> is nitrogen; and  
W represents a 6-membered aryl or heteroaryl group, the 6-  
membered aryl or heteroaryl group is optionally substituted  
with up to 4 groups independently selected from R<sub>30</sub>, -CO<sub>2</sub>H, -  
C(=O)OR<sub>E</sub>, -C(=O)NHR<sub>E</sub>, -C(=O)NR<sub>E</sub>R<sub>F</sub>, -C(O)R<sub>E</sub>, and -S(O)<sub>m</sub>R<sub>E</sub>, -  
OR<sub>E</sub>, where R<sub>30</sub> and R<sub>E</sub> are as defined above and m is 0, 1, or  
2.

122. A compound or salt according to Claim 121, wherein  
X<sub>2</sub> is carbon; and Q is oxygen.

123. A compound or salt according to Claim 121, wherein  
X<sub>2</sub> is N; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

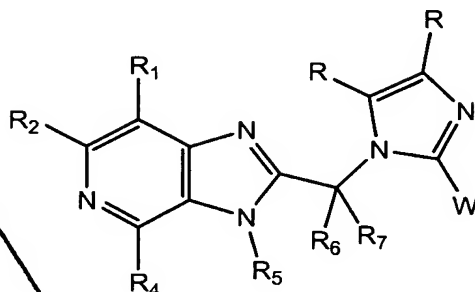
124. A compound or salt according to Claim 121, wherein  
X<sub>2</sub> is carbon; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

125. A compound or salt according to Claim 121, wherein X<sub>1</sub>  
is carbon; X<sub>2</sub> is N; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

126. A compound or salt according to Claim 121, wherein X<sub>1</sub>  
is nitrogen; X<sub>2</sub> is carbon; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

127. A compound or salt according to Claim 121, wherein Q is C(R<sub>6</sub>)(R<sub>7</sub>).

128. A compound or salt according to Claim 121 of the formula



wherein R, R<sub>1</sub>, R<sub>2</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, and W are as defined in Claim 121.

129. A compound or salt according to Claim 128, wherein: R is independently selected at each occurrence from the group consisting of

- i) hydrogen, halogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, and
- ii) phenyl and pyridyl each of which is optionally substituted with up to 3 substituents independently chosen from halogen, hydroxy, C<sub>1-4</sub>alkyl, and -O(C<sub>1-4</sub>alkyl);

R<sub>1</sub>, R<sub>2</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, heterocycloalkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, phenyl, benzyl, thiophenyl, thiazoyl, pyridyl, imidazolyl, pyrazolyl, or pyrimidinyl;

R<sub>6</sub> and R<sub>7</sub> independently represent hydrogen, fluorine, or C<sub>1</sub>-C<sub>6</sub> alkyl; and

W represents phenyl, pyrimidinyl, pyridyl, pyridizinyl, or pyrazinyl, each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

130. A compound or salt according to Claim 128, wherein:  
R is independently selected at each occurrence from the group consisting of hydrogen, halogen, and (C<sub>1</sub>-C<sub>2</sub>)alkyl;

10 R<sub>1</sub> and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents (C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>6</sub> and R<sub>7</sub> are hydrogen; and

W represents phenyl, pyrimidinyl, pyridyl, pyridizinyl, or pyrazinyl each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

131. A compound or salt according to Claim 130 wherein  
R<sub>1</sub> and R<sub>4</sub> are independently selected from hydrogen, halogen, trifluoromethyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and cyano; and

25 W is phenyl or pyridyl, each of which is optionally substituted by one or more substituents independently chosen from halogen, cyano, hydroxy, oxo, C<sub>1</sub>-C<sub>2</sub>haloalkyl, C<sub>1</sub>-C<sub>2</sub>alkyl, and C<sub>1</sub>-C<sub>2</sub> alkoxy.

30 132. A compound or salt according to Claim 131, wherein W is 2-pyrimidinyl, 3-fluorophenyl, or 6-fluoro-2-pyridinyl.

133. A compound or salt according to Claim 131, wherein R<sub>1</sub>, and R<sub>4</sub> are hydrogen.

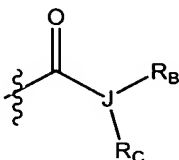
134. A compound or salt according to Claim 131, wherein R<sub>5</sub> is ethyl or n-propyl.

135. A compound or salt according to Claim 131 wherein R<sub>2</sub> is chosen from

- i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, and
- ii) C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), (R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl, (heterocycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

136. A compound or salt according to Claim 135 wherein R<sub>2</sub> is chosen from hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy.

137. A compound or salt according to Claim 131 wherein R<sub>2</sub> is a group of the formula



where J is N, CH, or C-(C<sub>1</sub>-C<sub>6</sub>)alkyl and

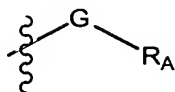
R<sub>B</sub> and R<sub>C</sub> are independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, and (C<sub>3</sub>-C<sub>8</sub>cycloalkyl)(C<sub>1</sub>-C<sub>4</sub>)alkyl; or

R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain

a) one or more double bonds,

- b) one or more of oxo, O, S, SO, SO<sub>2</sub>, and N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen or (C<sub>1</sub>-C<sub>6</sub>)alkyl;  
c) one or more substituents R<sub>20</sub>.

138. A compound or salt according to Claim 131 wherein R<sub>2</sub> is a group of the formula:



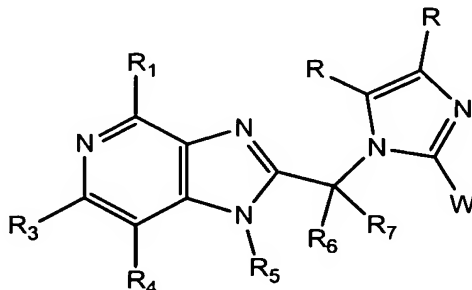
where G is a bond or C<sub>1</sub>-C<sub>2</sub>alkyl; and

R<sub>A</sub> is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

139. A compound or salt according to Claim 138 wherein R<sub>A</sub> is chosen from phenyl, pyrrolyl, pyrazolyl, thiazolyl, isoxazolyl, triazolyl, tetrazolyl, oxadiazolyl, and oxazolyl each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

140. A compound or salt according to Claim 131 wherein R<sub>2</sub> is -HC=N-OH or -HC=N(C<sub>1</sub>-C<sub>6</sub>alkoxy).

141. A compound or salt according to Claim 121 of the formula



wherein R, R<sub>1</sub>, R<sub>2</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, and W are as defined in Claim 141.

142. A compound or salt according to Claim 141, wherein:

R is independently selected at each occurrence from the group consisting of

i) hydrogen, halogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, and

ii) phenyl and pyridyl each of which is optionally substituted with up to 3 substituents independently chosen from halogen, hydroxy, C<sub>1-4</sub>alkyl, and -O(C<sub>1-4</sub>alkyl);

R<sub>1</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, heterocycloalkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, phenyl, benzyl, thiophenyl, thiazoyl, pyridyl, imidazolyl, pyrazolyl, or pyrimidinyl;

R<sub>6</sub> and R<sub>7</sub> independently represent hydrogen, fluorine, or C<sub>1</sub>-C<sub>6</sub>alkyl; and

W represents phenyl, pyridyl, pyridiziny, pyrimidinyl, or pyrazinyl, each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

143. A compound or salt according to Claim 142, wherein:

R is independently selected at each occurrence from the group consisting of hydrogen, halogen, and (C<sub>1</sub>-C<sub>2</sub>)alkyl;

R<sub>1</sub> and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy,



(C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl (C<sub>1</sub>-C<sub>6</sub>) alkyl, halo(C<sub>1</sub>-C<sub>6</sub>) alkyl, halo(C<sub>1</sub>-C<sub>6</sub>) alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>) alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>) alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>) alkylamino(C<sub>1</sub>-C<sub>6</sub>) alkyl;

<sup>5</sup> R<sub>5</sub> represents (C<sub>1</sub>-C<sub>6</sub>) alkyl;

R<sub>6</sub> and R<sub>7</sub> are hydrogen; and

W represents phenyl, pyridyl, pyridizynyl, pyrimidinyl, or pyrazinyl, each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

10 144. A compound or salt according to Claim 143 wherein R<sub>1</sub> and R<sub>4</sub> are independently selected from hydrogen, halogen, trifluoromethyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and cyano; and W is phenyl or pyridyl, each of which is optionally substituted by one or more substituents independently chosen from  
5 halogen, cyano, hydroxy, oxo, C<sub>1</sub>-C<sub>2</sub> haloalkyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and C<sub>1</sub>-C<sub>2</sub> alkoxy.

20 145. A compound or salt according to Claim 144, wherein W is 2-pyrimidinyl, 3-fluorophenyl, or 6-fluoro-2-pyridinyl.

146. A compound or salt according to Claim 144, wherein R<sub>1</sub> and R<sub>4</sub> are hydrogen.

25 147. A compound or salt according to Claim 144, wherein R<sub>5</sub> is ethyl or n-propyl.

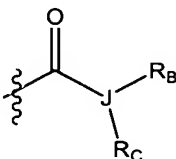
148. A compound or salt according to Claim 144 wherein R<sub>3</sub> is chosen from

- 30 i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>) alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>) alkoxy,  
ii) C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, (C<sub>3</sub>-C<sub>8</sub> cycloalkyl) C<sub>1</sub>-C<sub>4</sub> alkyl, -NH(R<sub>10</sub>),

-N(R<sub>10</sub>)(R<sub>11</sub>), (R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl, (heterocycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

149. A compound or salt according to Claim 148 wherein R<sub>3</sub> is chosen from hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy.

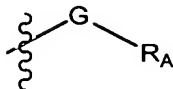
150. A compound or salt according to Claim 144 wherein R<sub>3</sub> is a group of the formula



where J is N, CH, or C-(C<sub>1</sub>-C<sub>6</sub>)alkyl and R<sub>B</sub> and R<sub>C</sub> are independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, and (C<sub>3</sub>-C<sub>8</sub>cycloalkyl)(C<sub>1</sub>-C<sub>4</sub>)alkyl; or R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain

- one or more double bonds,
- one or more of oxo, O, S, SO, SO<sub>2</sub>, and N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen or (C<sub>1</sub>-C<sub>6</sub>)alkyl;
- one or more substituents R<sub>20</sub>.

151. A compound or salt according to Claim 144 wherein R<sub>3</sub> is a group of the formula:



where G is a bond or C<sub>1</sub>-C<sub>2</sub>alkyl; and R<sub>A</sub> is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially

unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of  $R_{20}$ .

152. A compound or salt according to Claim 151 wherein  $R_A$  is chosen from phenyl, pyrrolyl, pyrazolyl, thiazolyl, isoxazolyl, triazolyl, tetrazolyl, oxadiazolyl, and oxazolyl each of which is is optionally substituted with 1, 2, 3, or 4 of  $R_{20}$ .

153. A compound or salt according to Claim 144 wherein  $R_2$  is  $-HC=N-OH$  or  $-HC=N(C_1-C_6\text{alkoxy})$ .

154. A compound or salt according to Claim 121 wherein:  $X_1$  is carbon;  $X_2$  is nitrogen;  $X_3$  is CR;  $X_4$  is nitrogen; and Q is C( $R_6$ ) ( $R_7$ ).

155. A compound or salt according to Claim 121 wherein  $X_1$  is carbon;  $X_2$  is nitrogen;  $X_3$  is nitrogen;  $X_4$  is CR; and Q is C( $R_6$ ) ( $R_7$ ).

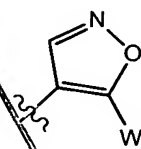
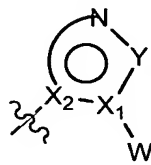
156. A compound or salt according to Claim 121 wherein  $X_1$  is carbon;  $X_2$  is carbon;  $X_3$  is S;  $X_4$  is CR; and Q is C( $R_6$ ) ( $R_7$ ).

157. A compound or salt according to Claim 156 wherein  $X_1$  is nitrogen;  $X_2$  is carbon;  $X_3$  is nitrogen; and  $X_4$  is CR.

158. A compound or salt according to Claim 121 wherein  $X_1$  is carbon;  $X_2$  is carbon;  $X_3$  is NH or N( $C_1-C_6\text{alkyl}$ ); and  $X_4$  is CR.

159. A compound or salt according to Claim 121 wherein  $X_1$  is carbon;  $X_2$  is nitrogen;  $X_3$  is nitrogen;  $X_4$  is nitrogen; and Q is C( $R_6$ ) ( $R_7$ ).

160. A compound or salt according to Claim 119, wherein either Z<sub>2</sub> or Z<sub>3</sub> is nitrogen; and the group



W is

- 5 W represents a 6-membered aryl or heteroaryl group, wherein the 6-membered aryl or heteroaryl group is optionally substituted with up to 4 groups independently selected from R<sub>30</sub>, -CO<sub>2</sub>H, -C(=O)OR<sub>E</sub>, -C(=O)NHR<sub>E</sub>, -C(=O)NR<sub>E</sub>R<sub>F</sub>, -C(O)R<sub>E</sub>, and -S(O)<sub>m</sub>R<sub>E</sub>, -OR<sub>E</sub>, where R<sub>30</sub> and R<sub>E</sub> are as defined above and m is 0, 1, or 2.

161. A compound or salt according to Claim 121, wherein X<sub>1</sub> is nitrogen; X<sub>2</sub> is carbon; X<sub>3</sub> is CR; and X<sub>4</sub> is nitrogen.

162. A compound or salt according to Claim 161 wherein Q is C(R<sub>6</sub>)(R<sub>7</sub>).

163. A compound or salt according to Claim 121, wherein X<sub>1</sub> is nitrogen; X<sub>2</sub> is carbon; X<sub>3</sub> is nitrogen; and X<sub>4</sub> is nitrogen.

164. A compound or salt according to Claim 163 wherein Q is C(R<sub>6</sub>)(R<sub>7</sub>).

165. A pharmaceutical composition comprising a compound or salt according to Claim 1 combined with at least one pharmaceutically acceptable carrier or excipient.

166. A method for altering the signal-transducing activity of a GABA<sub>A</sub> receptor, said method comprising contacting a cell expressing such a receptor with an amount of a compound or salt according to Claim 1 sufficient to detectably alter the

Q' cont  
electrophysiology of the cell, wherein a detectable alteration of the electrophysiology of the cell indicates an alteration of the signal-transducing activity of GABA<sub>A</sub> receptors.

10 167. A method for altering the signal-transducing activity of a GABA<sub>A</sub> receptor, said method comprising contacting a cell expressing such receptors with an amount of a compound or salt according to Claim 1 to detectably alter the chloride conductance in vitro of cell expressing GABA<sub>A</sub> receptors.

15 168. The method of Claim 167 wherein the cell is recombinantly expresses a heterologous GABA<sub>A</sub> receptor and the alteration of the electrophysiology of the cell is detected by intracellular recording or patch clamp recording.

20 169. The method of Claim 167 wherein the cell is a neuronal cell that is contacted in vivo in an animal, the cell is contacted with the compound or salt dissolved in a body fluid, and the alteration in the electrophysiology of the cell is detected as a change in the animal's behavior.

25 170. The method of Claim 169 wherein the animal is a human, the neuronal cell is a brain cell, and the body fluid is cerebrospinal fluid.

30 171. A method for altering the signal-transducing activity of a GABA<sub>A</sub> receptor, the method comprising exposing a cell expressing the GABA<sub>A</sub> receptor to an amount of a compound or salt according to Claim 1 sufficient to inhibit RO15-1788 binding in vitro to cells expressing a human GABA<sub>A</sub> receptor.

172. A method for the treatment of anxiety, depression, a sleep disorder, schizophrenia, attention deficit-hyperactivity

disorder, or for the enhancement of memory, comprising administering an effective amount of a compound or salt of Claim 1 to a patient.

173. A method for demonstrating the presence of a GABA<sub>A</sub> receptor in a cell or tissue sample, said method comprising:

contacting a cell or tissue sample with a labeled compound or salt according to Claim 1;

washing the cell or tissue sample to remove unbound labeled compound or salt; and

detecting the presence of labeled compound or salt in the cell or tissue sample.

174. The method of Claim 173 in which the cell or tissue sample is a tissue section.

175. The method of Claim 173 in which the labeled compound or salt contains a radioactive label or a directly or indirectly luminescent label.

176. The method of Claim 173 in which the cell or tissue sample is a tissue section, labeled compound or salt contains a radioactive label or a directly or indirectly luminescent label, and the labeled compound or salt is detected autoradiographically to generate an autoradiogram.

177. A method for demonstrating the presence of a GABA<sub>A</sub> receptor in a tissue section comprising:

contacting the tissue section with a radiolabeled or luminescently labeled compound or salt according to Claim 1 to yield a contacted tissue section;

washing the tissue section to remove unbound labeled compound or salt;

detecting the labeled compound or salt in the tissue section; and

comparing the exposure density of the tissue section with the exposure density of a second tissue section that has not been contacted with a compound or salt according to Claim 1.

178. A package comprising a pharmaceutical composition of claim 165 in a container and further comprising at least one of:

instructions for using the composition to treat a patient suffering from an anxiety disorder, or

instructions for using the composition to treat a patient suffering from depression, or

instructions for using the composition to treat a patient suffering from a sleeping disorder,

instructions for using the composition to treat a patient suffering from schizophrenia, or

instructions for using the composition to treat a patient suffering from attention deficit-hyperactivity disorder.

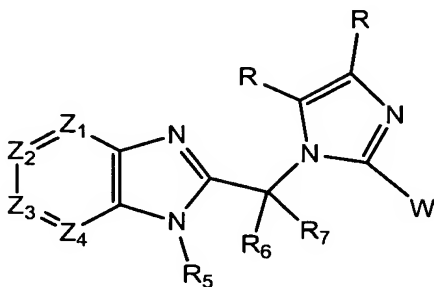
179. A package comprising a pharmaceutical composition of claim 165 in a container and further comprising indicia comprising at least one of: instructions for using the composition to treat a patient suffering from Alzheimer's dementia or instructions for using the composition to enhance memory in a patient.

180. The use of a compound or salt according to Claim 1 for the manufacture of a medicament.

181. The use of a compound or salt according to Claim 1 for the treatment of anxiety, depression, a sleep disorder, schizophrenia, or attention deficit-hyperactivity disorder.

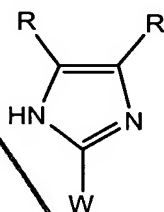
182. The use of a compound or salt according to Claim 1 for the enhancement of memory.

183. A process for preparing a compound of Formula A



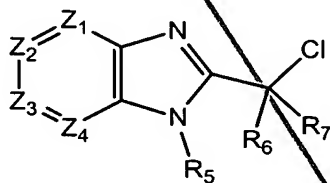
Formula A

comprising reacting a compound of Formula B



Formula B

with a compound of Formula C



Formula C

wherein:

Z<sub>1</sub> is nitrogen or CR<sub>1</sub>;

Z<sub>2</sub> is nitrogen or CR<sub>2</sub>;

Z<sub>3</sub> is nitrogen or CR<sub>3</sub>;

Z<sub>4</sub> is nitrogen or CR<sub>4</sub>;

provided that no more than two of Z<sub>1</sub>, Z<sub>2</sub>, Z<sub>3</sub>, and Z<sub>4</sub> are nitrogen;

R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from

i) hydrogen, halogen, hydroxy, nitro, cyano, amino, haloalkyl, and haloalkoxy,

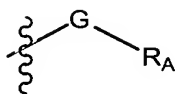


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ii) alkyl, alkoxy, cycloalkyl, alkenyl, alkynyl, (cycloalkyl)alkyl,  $-NH(R_{10})$ ,  $-N(R_{10})(R_{11})$ , hydroxyalkyl, aminoalkyl,  $(R_{10})NHalkyl$ ,  $(R_{10})(R_{11})Nalkyl$ , alkanoyl, alkoxycarbonyl, (heterocycloalkyl)alkyl, alkylsulfonyl, alkylthio, mono- or dialkylaminocarbonyl, heterocycloalkyl, aryl, and heteroaryl, each of which is optionally substituted with 1, 2, 3, or 4 of  $R_{20}$ ,

wherein  $R_{10}$  and  $R_{11}$  are independently selected from the group consisting of alkyl, alkenyl, alkynyl, alkoxy, cycloalkyl, (cycloalkyl)alkyl, aryl, arylalkyl, alkanoyl, and mono and dialkylaminoalkyl; and

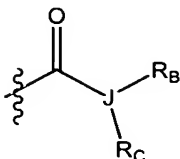
iii) a group of the formula:



where G is a bond, alkyl,  $-O-$ ,  $-C(=O)-$ , or  $-CH_2C(=O)-$ , and

$R_A$  is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of  $R_{20}$ , and

iv) a group of the formula



where J is N, CH, or C-alkyl, and

$R_B$  and  $R_C$  are independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkoxy, cycloalkyl, (cycloalkyl)alkyl, heterocycloalkyl, aryl, arylalkyl, alkanoyl, heteroaryl, and mono and dialkylaminoalkyl, each of which is optionally substituted by 1 or 2 substituents independently chosen from halogen, hydroxy, cyano, amino, nitro, alkoxy, and alkyl;

Q1  
cont  
5  
R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain:

a) one or more double bonds,

b) one or more of oxo, O, S, SO, SO<sub>2</sub>, or N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen, Ar<sub>1</sub>, alkyl, cycloalkyl, heterocycloalkyl, or Ar<sub>1</sub>alkyl; wherein Ar<sub>1</sub> is aryl or heteroaryl, each of which is optionally substituted by 1 or 2 substituents independently chosen from halogen, hydroxy, cyano, amino, nitro, alkoxy, and alkyl, and/or

10 c) one or more substituents R<sub>20</sub>;

v) -OC(=O)R<sub>E</sub>, -C(=O)OR<sub>E</sub>, -C(=O)NH<sub>2</sub>, -C(=O)NHR<sub>E</sub>, -C(=O)NR<sub>E</sub>R<sub>F</sub>, -S(O)<sub>n</sub>R<sub>E</sub>, -S(O)<sub>n</sub>NH<sub>2</sub>, -S(O)<sub>n</sub>NHR<sub>E</sub>, -S(O)<sub>n</sub>NR<sub>E</sub>R<sub>F</sub>, -NHC(=O)R<sub>E</sub>, -C(=NR<sub>E</sub>)R<sub>F</sub>, -HC=N-OH, -HC=N(alkoxy), -HC=N(alkyl), -NR<sub>E</sub>C(=O)R<sub>F</sub>, -NHS(O)<sub>m</sub>R<sub>E</sub>, and -NR<sub>E</sub>S(O)<sub>m</sub>R<sub>F</sub>, where m is 0, 1 or 2, and

15 R<sub>E</sub> and R<sub>F</sub> are independently selected at each occurrence from alkyl, cycloalkyl, heterocycloalkyl, alkoxy, mono- or dialkylamino, aryl, or heteroaryl each of which is optionally substituted by 1, 2, or 3 of R<sub>30</sub>;

20 R<sub>20</sub> is independently selected at each occurrence from the group consisting of: halogen; hydroxy; nitro; cyano; amino; alkyl; alkoxy optionally substituted with amino or mono- or dialkylamino; cycloalkyl; cycloalkylalkyl; cycloalkylalkoxy; alkenyl; alkynyl; haloalkyl; oxo; haloalkoxy; mono- and dialkylamino; aminoalkyl; and mono- and dialkylaminoalkyl;

25 R<sub>30</sub> is independently selected at each occurrence from halogen, hydroxy, nitro, cyano, amino, alkyl, alkoxy optionally substituted with amino or mono- or dialkylamino, cycloalkyl, cycloalkylalkyl, cycloalkylalkoxy, heterocycloalkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, oxo, mono- and dialkylamino, aminoalkyl, and mono- and dialkylaminoalkyl;

*a*  
*cont*  
54  
R<sub>5</sub> represents hydrogen or haloalkyl; or

R<sub>5</sub> represents alkyl, cycloalkyl, or (cycloalkyl)alkyl, each of which may contain one or more double or triple bonds, and each of which is optionally substituted with 1, 2, or 3 of R<sub>30</sub>, or

R<sub>5</sub> represents aryl, arylalkyl, heteroaryl, or heteroarylalkyl each of which is optionally substituted with 1, 2, or 3 substituents selected from the group consisting of haloalkyl, amino, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), carboxamido, (R<sub>10</sub>)NHcarbonyl, (R<sub>10</sub>)(R<sub>11</sub>)Ncarbonyl, halogen, hydroxy, nitro, cyano, amino, alkyl, alkoxy optionally substituted with amino or mono- or dialkylamino, cycloalkyl, cycloalkylalkyl, cycloalkylalkoxy, heterocycloalkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aminoalkyl, and mono- and dialkylaminoalkyl;

R<sub>6</sub> and R<sub>7</sub> independently represent hydrogen, fluorine, or alkyl;

R is independently chosen at each occurrence from hydrogen, halogen, amino, C<sub>1</sub>-C<sub>6</sub>alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl)(C<sub>1</sub>-C<sub>4</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, haloalkoxy, carboxamido, and 3- to 7-membered carbocyclic or heterocyclic groups which are saturated, unsaturated, or aromatic, which may be further substituted with one or more substituents independently selected from halogen, oxo, hydroxy, C<sub>1-4</sub>alkyl, and -O(C<sub>1-4</sub>alkyl); and

W represents aryl or heteroaryl, wherein the aryl or heteroaryl group is optionally substituted with up to 4 groups independently selected from R<sub>30</sub>, -CO<sub>2</sub>H, -C(=O)OR<sub>E</sub>, -C(=O)NHR<sub>E</sub>, -C(=O)NR<sub>E</sub>R<sub>F</sub>, -C(O)R<sub>E</sub>, and -S(O)<sub>m</sub>R<sub>E</sub>, -OR<sub>E</sub>, where R<sub>30</sub> and R<sub>E</sub> are as defined above and m is 0, 1, or 2.

184. A process according to Claim 183, wherein:

Z<sub>1</sub> is CR<sub>1</sub>, Z<sub>2</sub> is CR<sub>2</sub>, Z<sub>3</sub> is CR<sub>3</sub>, and Z<sub>4</sub> is CR<sub>4</sub>,

R is independently selected at each occurrence from the group consisting of hydrogen, halogen, and (C<sub>1</sub>-C<sub>2</sub>)alkyl;

R<sub>1</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents (C<sub>1</sub>-C<sub>6</sub>)alkyl;

10 R<sub>6</sub> and R<sub>7</sub> are hydrogen; and

W represents phenyl, furanyl, thienyl, thiazolyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, isoxazolyl, pyrimidinyl, benzimidazolyl, quinolinyl, isoquinolinyl each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

15 185. A process according to Claim 184, wherein W is 2-thiazolyl, 2-pyrimidinyl, 3-fluorophenyl, or 6-fluoro-2-pyridinyl.

20 186. A process according to Claim 184, wherein R, R<sub>1</sub>, and R<sub>4</sub> are hydrogen.

25 187. A process according to Claim 184, wherein R<sub>5</sub> is ethyl or n-propyl.

188. A process according to Claim 184 wherein R<sub>2</sub> is chosen from

i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy,

30 ii) C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl) C<sub>1</sub>-C<sub>4</sub>alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), (R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl,

(heterocycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

189. A process according to Claim 183 wherein

Z<sub>1</sub> is CR<sub>1</sub>;

one and only one of Z<sub>2</sub> or Z<sub>3</sub> is nitrogen;

Z<sub>4</sub> is CR<sub>4</sub>; and

R<sub>2</sub> or R<sub>3</sub> is chosen from

i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy,

ii) C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl) C<sub>1</sub>-C<sub>4</sub>alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), (R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl, (heterocycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>;

R is independently selected at each occurrence from the group consisting of hydrogen, halogen, and (C<sub>1</sub>-C<sub>2</sub>)alkyl;

R<sub>1</sub> and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents (C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>6</sub> and R<sub>7</sub> are hydrogen;

W represents a 5-membered heteroaryl group, the 5-membered heteroaryl group is optionally substituted with up to 4 groups independently selected from R<sub>30</sub>, -CO<sub>2</sub>H, -C(=O)OR<sub>E</sub>, -C(=O)NHR<sub>E</sub>, -C(=O)NR<sub>E</sub>R<sub>F</sub>, -C(O)R<sub>E</sub>, and -S(O)<sub>m</sub>R<sub>E</sub>, -OR<sub>E</sub>, where R<sub>30</sub> and R<sub>E</sub> are as defined above and m is 0, 1, or 2.

190. A process according to Claim 189, wherein Z<sub>3</sub> is nitrogen.

191. A process according to Claim 189 wherein  
R<sub>1</sub> and R<sub>4</sub> are independently selected from hydrogen, halogen,  
trifluoromethyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and cyano; and  
W is thiazolyl, thienyl, imidazolyl, oxazolyl, triazolyl,  
tetrazolyl, pyrazolyl, or isoxazolyl, each of which is  
optionally substituted by one or more substituents  
independently chosen from halogen, cyano, hydroxy, oxo, C<sub>1</sub>-  
C<sub>2</sub>haloalkyl, C<sub>1</sub>-C<sub>2</sub>alkyl, and C<sub>1</sub>-C<sub>2</sub> alkoxy.

192. A process according to Claim 191, wherein W is 2-  
thiazolyl.

193. A compound or salt according to Claim 191, wherein R,  
R<sub>1</sub> and R<sub>4</sub> are hydrogen.

194. A compound or salt according to Claim 191, wherein R<sub>5</sub>  
is ethyl or n-propyl.

195. A process according to Claim 189, wherein Z<sub>2</sub> is  
nitrogen.

196. A process according to Claim 195 wherein  
R<sub>1</sub> and R<sub>4</sub> are independently selected from hydrogen, halogen,  
trifluoromethyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and cyano; and  
W is thiazolyl, thienyl, imidazolyl, oxazolyl, triazolyl,  
tetrazolyl, pyrazolyl, or isoxazolyl, each of which is  
optionally substituted by one or more substituents  
independently chosen from halogen, cyano, hydroxy, oxo, C<sub>1</sub>-  
C<sub>2</sub>haloalkyl, C<sub>1</sub>-C<sub>2</sub>alkyl, and C<sub>1</sub>-C<sub>2</sub> alkoxy.

197. A process according to Claim 196, wherein W is 2-  
thiazolyl.

198. A compound or salt according to Claim 196, wherein R,  
R<sub>1</sub> and R<sub>4</sub> are hydrogen.

199. A compound or salt according to Claim 196, wherein R<sub>5</sub>  
is ethyl or n-propyl.

200. A process according to Claim 183 wherein  
Z<sub>1</sub> is CR<sub>1</sub>;

one and only one of Z<sub>2</sub> or Z<sub>3</sub> is nitrogen;

Z<sub>4</sub> is CR<sub>4</sub>;

R<sub>2</sub> or R<sub>3</sub> is chosen from

i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-  
C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy,

ii) C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-  
C<sub>6</sub>alkynyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl) C<sub>1</sub>-C<sub>4</sub>alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>),  
(R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl, (heterocycloalkyl)C<sub>1</sub>-  
C<sub>4</sub>alkyl, and heterocycloalkyl, each of which is optionally  
substituted with 1, 2, 3, or 4 of R<sub>20</sub>;

R is independently selected at each occurrence from the group  
consisting of hydrogen, halogen, and (C<sub>1</sub>-C<sub>2</sub>)alkyl;

R<sub>1</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen,  
hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy,  
(C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-  
C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino,  
amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-  
C<sub>6</sub>)alkyl;

R<sub>5</sub> represents (C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>6</sub> and R<sub>7</sub> are hydrogen; and

W represents a 6-membered aryl or heteroaryl group, wherein the  
6-membered aryl or heteroaryl group is optionally  
substituted with up to 4 groups independently selected from  
R<sub>30</sub>, -CO<sub>2</sub>H, -C(=O)OR<sub>E</sub>, -C(=O)NHR<sub>E</sub>, -C(=O)NR<sub>E</sub>R<sub>F</sub>, -C(O)R<sub>E</sub>, and -

S(O)<sub>m</sub>R<sub>E</sub>, -OR<sub>E</sub>, where R<sub>30</sub> and R<sub>E</sub> are as defined above and m is 0, 1, or 2.

201. A process according to Claim 200, wherein Z<sub>3</sub> is nitrogen.

202. A process according to Claim 201 wherein R<sub>1</sub> and R<sub>4</sub> are independently selected from hydrogen, halogen, trifluoromethyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and cyano; and W is phenyl, pyrimidinyl, pyridyl, pyrazinyl, or pyridiziny, each of which is optionally substituted by one or more substituents independently chosen from halogen, cyano, hydroxy, oxo, C<sub>1</sub>-C<sub>2</sub>haloalkyl, C<sub>1</sub>-C<sub>2</sub>alkyl, and C<sub>1</sub>-C<sub>2</sub> alkoxy.

203. A process according to Claim 202, wherein W is 2-pyrimidinyl, 3-fluorophenyl, or 6-fluoro-2-pyridinyl.

204. A compound or salt according to Claim 202, wherein R<sub>1</sub> and R<sub>4</sub> are hydrogen.

205. A compound or salt according to Claim 202, wherein R<sub>5</sub> is ethyl or n-propyl.

206. A process according to Claim 200, wherein Z<sub>2</sub> is nitrogen.

207. A process according to Claim 206 wherein R<sub>1</sub> and R<sub>4</sub> are independently selected from hydrogen, halogen, trifluoromethyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and cyano; and W is phenyl, pyrimidinyl, pyridyl, pyrazinyl, or pyridiziny, each of which is optionally substituted by one or more substituents independently chosen from halogen, cyano, hydroxy, oxo, C<sub>1</sub>-C<sub>2</sub>haloalkyl, C<sub>1</sub>-C<sub>2</sub>alkyl, and C<sub>1</sub>-C<sub>2</sub> alkoxy.



208. A process according to Claim 207, wherein W is 2-pyrimidinyl, 3-fluorophenyl, or 6-fluoro-2-pyridinyl.

209. A compound or salt according to Claim 207, wherein R, R<sub>1</sub> and R<sub>4</sub> are hydrogen.

210. A compound or salt according to Claim 207, wherein R<sub>5</sub> is ethyl or n-propyl.

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